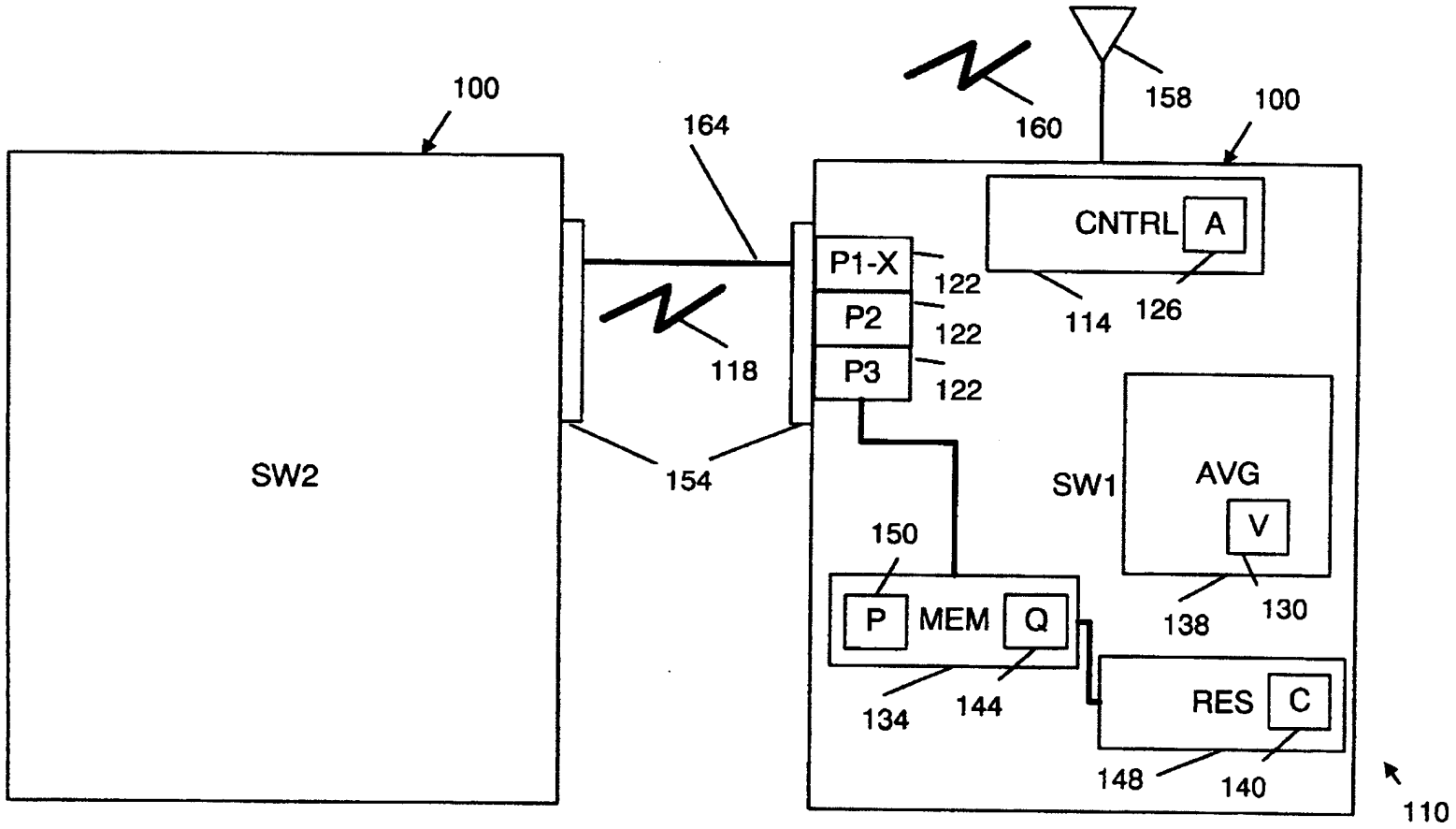
FIG. 1


100
164
160
158
100
CNTRL
A
P1-X
122
P2
122
P3
122
114
126
118
SW2
154
SW1
AVG
V
150
P
MEM
Q
138
130
134
144
RES
C
148
140
110

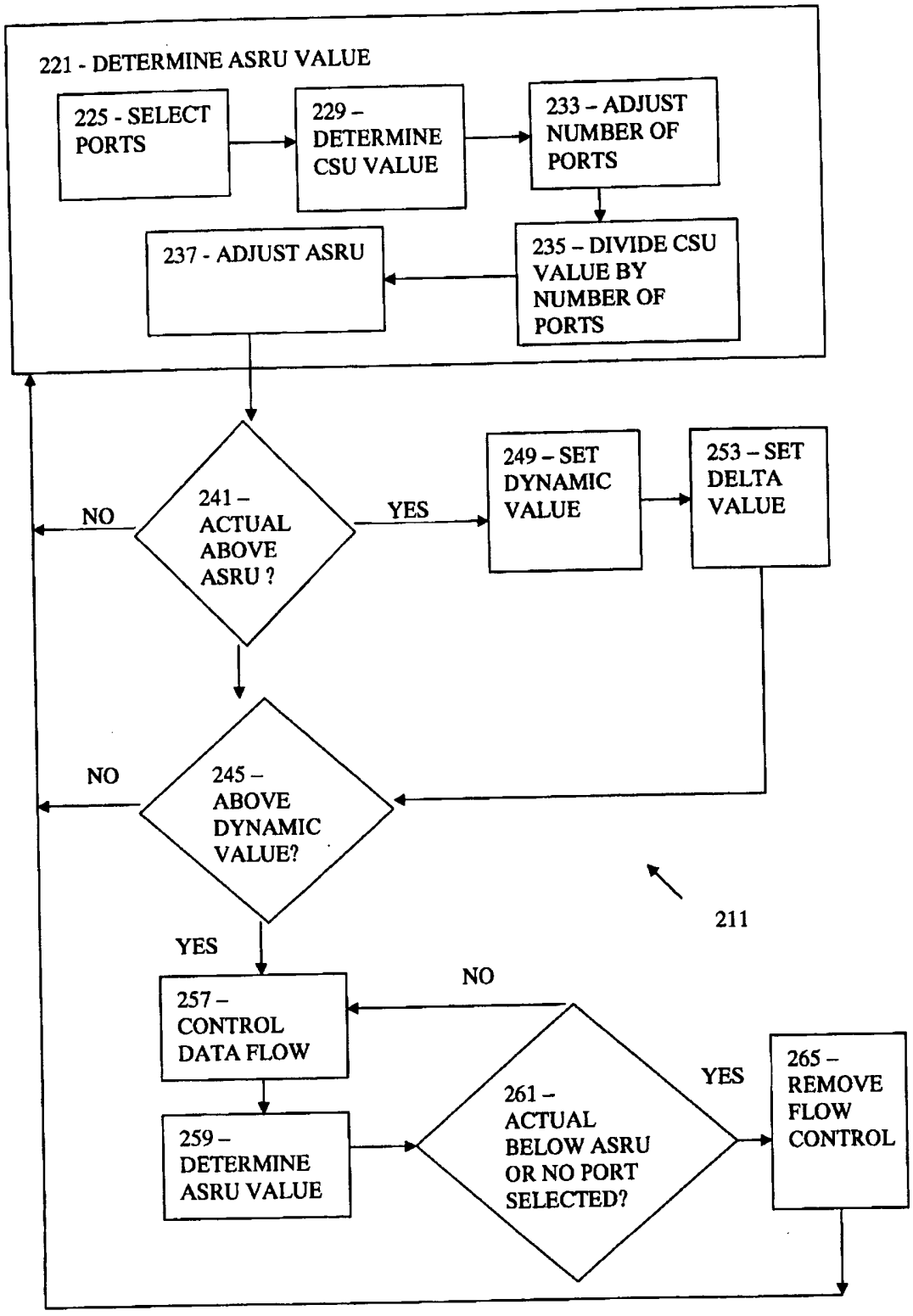

221 - DETERMINE ASRU VALUE
225 - SELECT PORTS
229 – DETERMINE CSU VALUE
233 – ADJUST NUMBER OF PORTS
235 – DIVIDE CSU VALUE BY NUMBER OF PORTS
237 - ADJUST ASRU
241 – ACTUAL ABOVE ASRU ?
NO
YES
249 – SET DYNAMIC VALUE
253 – SET DELTA VALUE
245 – ABOVE DYNAMIC VALUE?
NO
YES
211
257 – CONTROL DATA FLOW
259 – DETERMINE ASRU VALUE
NO
261 – ACTUAL BELOW ASRU OR NO PORT SELECTED?
YES
265 – REMOVE FLOW CONTROL

FIG. 3

```
PortRxUsage = Per Receive port utilization of memory
PortRxSharedUsage = (PortRxUsage > Tpmin)? (PortRxUsage – Tpmin): 0
CumulativeSharedUsage = SUM (PortRxSharedUsage)
Delta Value = Function(port speed, overall resource usage)

if (CumulativeSharedUsage is greater than a memory level for which adaptive flow
control is enabled)
{
        NumPortsInShared = count of all the ports which are using memory in shared
                           space // Different speed ports are scaled accordingly. 10G
                           is counted as 10 ports. This value is used to determine
                           the average shared memory usage per 1G port.

        AverageSharedUsage1G   = [CumulativeSharedUsage /NumPortsInShared]
        AverageSharedUsage10G  = AverageSharedUsage1G * 10
        DynamicThresh1G        = AverageSharedUsage1G + Delta value
        DynamicThresh10G       = AverageSharedUsage10G + Delta value
        DynamicThresh1Gdown    = DynamicThresh1G – Delta value
        DynamicThresh10Gdown   = Dynamicthresh10G – Delta value
}

DynamicThresh = (Portspeed == 10G) ? DynamicThresh10G : DynamicThresh1G
DynamicThreshdown = (Portspeed == 10G) ?
                           Dynamicthreshdown10G : DynamicThreshdown1G

if (PortRxSharedUsage >= DynamicThresh)
{ // this port is consuming more than the average
        AssertFlowControl;
        FlowControlTime = 16'hFFFF or
                           Function(PortRxSharedUsage – DynamicThresh)
}
else if (PortRxSharedUsage < DynamicThreshDown) or
                                   (PortRxUsage <= Tpmin)
{ // this port is no longer causing congestion
        DeassertFlowControl;
}
```

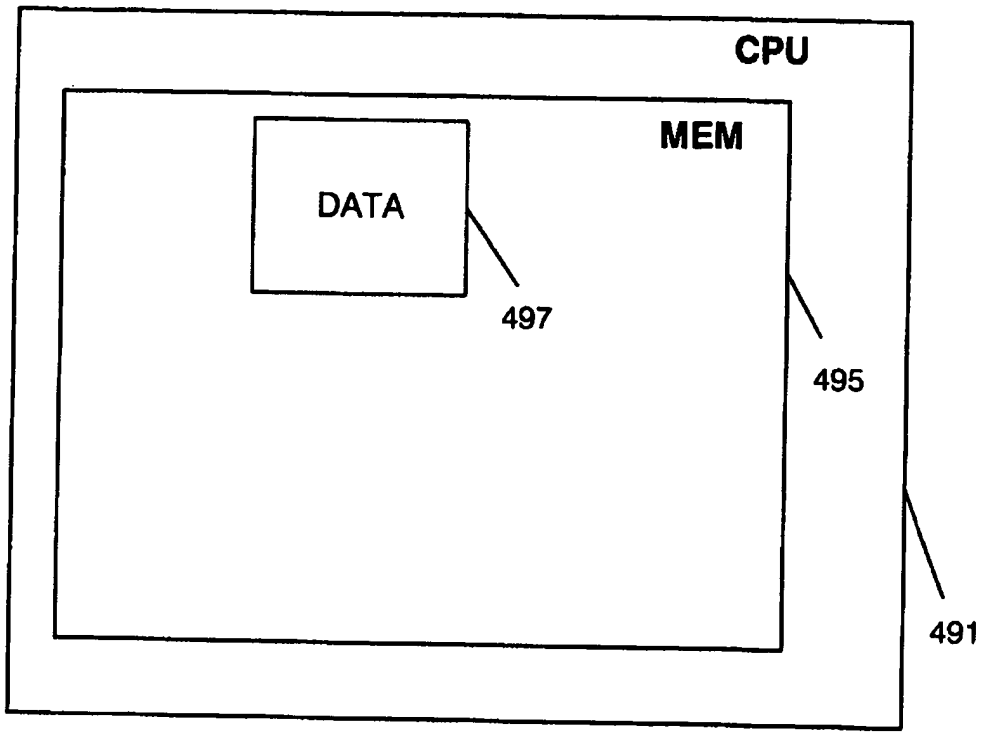



FIG. 4